



## SEQUENCE LISTING

<110> Thompson, Penny J.  
Sheppard, Paul O.

<120> Uses of Human Zven Antagonists

<130> 02-22

<140> 10/680,755

<141> 2003-10-07

<150> 60/416,719

<151> 2002-10-07

<150> 60/416,718

<151> 2002-10-07

<150> 60/434,116

<151> 2002-12-16

<150> 60/433,918

<151> 2002-12-16

<150> 60/508,614

<151> 2003-10-03

<150> 60/508,603

<151> 2003-10-03

<160> 29

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 1496

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (66)...(389)

<400> 1

cgcccttact cactataggg ctcgagcggc cgcccgggca ggtgccgccc agtcccagg 60

gcgcc atg agg agc ctg tgc tgc gcc cca ctc ctg ctc ctc ttg ctg ctg 110

Met Arg Ser Leu Cys Cys Ala Pro Leu Leu Leu Leu Leu Leu

1 5 10 15

ccg ccg ctg ctg ctc acg ccc cgc gct ggg gac gcc gcc gtg atc acc 158

Pro Pro Leu Leu Leu Thr Pro Arg Ala Gly Asp Ala Ala Val Ile Thr

20 25 30

ggg gct tgt gac aag gac tcc caa tgt ggt gga ggc atg tgc tgt gct 206

Gly	Ala	Cys	Asp	Lys	Asp	Ser	Gln	Cys	Gly	Gly	Gly	Met	Cys	Cys	Ala		
			35					40					45				
gtc	agt	atc	tgg	gtc	aag	agc	ata	agg	att	tgc	aca	cct	atg	ggc	aaa		254
Val	Ser	Ile	Trp	Val	Lys	Ser	Ile	Arg	Ile	Cys	Thr	Pro	Met	Gly	Lys		
		50					55				60						
ctg	gga	gac	agc	tgc	cat	cca	ctg	act	cgt	aaa	gtt	cca	ttt	ttt	ggg		302
Leu	Gly	Asp	Ser	Cys	His	Pro	Leu	Thr	Arg	Lys	Val	Pro	Phe	Phe	Gly		
	65					70					75						
cgg	agg	atg	cat	cac	act	tgc	cca	tgt	ctg	cca	ggc	ttg	gcc	tgt	tta		350
Arg	Arg	Met	His	His	Thr	Cys	Pro	Cys	Leu	Pro	Gly	Leu	Ala	Cys	Leu		
	80				85				90						95		
cgg	act	tca	ttt	aac	cga	ttt	att	tgt	tta	gcc	caa	aag	taatcgctct				399
Arg	Thr	Ser	Phe	Asn	Arg	Phe	Ile	Cys	Leu	Ala	Gln	Lys					
				100					105								
ggagtagaaa	ccaaatgtga	atagccacat	cttacctgta	aagtcttact	tgtgattgtg												459
ccaaacaaaa	aatgtgccag	aaagaaatgc	tcttgcttcc	tcaactttcc	aagtaacatt												519
tttatctttg	atgtgtaaat	gatttttttt	ttttttttta	tcgaaagaga	attttacttt												579
tggatagaaa	tatgaagtgt	aaggcattat	ggaactgggt	cttattttccc	tgtttgtgtt												639
ttggtttgat	ttggcttttt	tcttaaagt	caaaaacgta	cccattttca	caaaaatgag												699
gaaaataaga	atttgatatt	ttgttagaaa	aacttttttt	tttttttctc	accaccccaa												759
gccccatttg	tgccctgccg	cacaaataca	cctacagctt	ttgggtccctt	gcctcttcca												819
cctcaaagaa	tttcaaggct	cttaccttac	tttatttttg	tccattttctc	ttccctcctc												879
ttgcatttta	aagtggaggg	tttgtctctt	tgagtttgat	ggcagaatca	ctgatgggaa												939
tccagctttt	tgctggcatt	taaatagtga	aaagagtgtg	tatgtgaact	tgacactcca												999
aactcctgtc	atggcacgga	agctaggagt	gctgctggac	ccttcctaaa	cctgtcactc												1059
aagaggactt	cagctctgct	gttgggctgg	tgtgtggaca	gaaggaatgg	aaagccaaat												1119
taatttagtc	cagattttcta	ggtttgggtt	tttctaaaaa	taaaagatta	catttacttc												1179
ttttactttt	tataaagttt	tttttcctta	gtctcctact	tagagatatt	ctagaaaatg												1239
tcacttgaag	aggaagtatt	tattttaatc	tggcacaca	ctaattacca	tttttaaagc												1299
ggtattaagt	tgtaatttaa	accttgtttg	taactgaaag	gtcgattgta	atggattgcc												1359
gtttgtacct	gtatcagtat	tgctgtgtaa	aaattctgta	tcagaataat	aacagtactg												1419
tatatcattt	gatttatttt	aatattatat	ccttattttt	gtcaaaaaaa	aaaaaaaaaa												1479
aaaaatatgc	ggccgcg																1496

&lt;210&gt; 2

&lt;211&gt; 108

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 2

Met	Arg	Ser	Leu	Cys	Cys	Ala	Pro	Leu	Leu	Leu	Leu	Leu	Leu	Leu	Pro		
1				5					10					15			
Pro	Leu	Leu	Leu	Thr	Pro	Arg	Ala	Gly	Asp	Ala	Ala	Val	Ile	Thr	Gly		
		20						25					30				
Ala	Cys	Asp	Lys	Asp	Ser	Gln	Cys	Gly	Gly	Gly	Met	Cys	Cys	Ala	Val		
	35						40				45						
Ser	Ile	Trp	Val	Lys	Ser	Ile	Arg	Ile	Cys	Thr	Pro	Met	Gly	Lys	Leu		
	50					55				60							
Gly	Asp	Ser	Cys	His	Pro	Leu	Thr	Arg	Lys	Val	Pro	Phe	Phe	Gly	Arg		
	65				70					75					80		
Arg	Met	His	His	Thr	Cys	Pro	Cys	Leu	Pro	Gly	Leu	Ala	Cys	Leu	Arg		
				85					90					95			

Thr Ser Phe Asn Arg Phe Ile Cys Leu Ala Gln Lys  
 100 105

<210> 3  
 <211> 324  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> This degenerate sequence encodes the amino acid  
 sequence of SEQ ID NO:2.

<221> misc\_feature  
 <222> (1)...(324)  
 <223> n = A,T,C or G

<400> 3  
 atgmgnwsny tntgytgygc nccnytnytn ytnytnytny tnytnccncc nytnytnytn 60  
 acnccnmngng cnggngaygc ngcngtnath acnggngcnt gygayaarga ywsncartgy 120  
 ggngggnggna tgtgytgygc ngtnwsnath tgggtnaarw snathmgnat htgyacnccn 180  
 atgggnaary tnggngayws ntgycayccn ytnacnmgna argtnccntt yttyggnmgn 240  
 mgnatgcayc ayacntgycc ntgyytnccn ggnytnngcnt gyytnmgnac nwsnttyaay 300  
 mgnttyatht gyytngcnca raar 324

<210> 4  
 <211> 1409  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (91)...(405)

<400> 4  
 tggcctcccc agcttgccag gcacaaggct gagcgggagg aagcgagagg catctaagca 60  
 ggcagtgttt tgccttcacc ccaagtgacc atg aga ggt gcc acg cga gtc tca 114  
 Met Arg Gly Ala Thr Arg Val Ser  
 1 5

atc atg ctc ctc cta gta act gtg tct gac tgt gct gtg atc aca ggg 162  
 Ile Met Leu Leu Leu Val Thr Val Ser Asp Cys Ala Val Ile Thr Gly  
 10 15 20

gcc tgt gag cgg gat gtc cag tgt ggg gca ggc acc tgc tgt gcc atc 210  
 Ala Cys Glu Arg Asp Val Gln Cys Gly Ala Gly Thr Cys Cys Ala Ile  
 25 30 35 40

agc ctg tgg ctt cga ggg ctg cgg atg tgc acc ccg ctg ggg cgg gaa 258  
 Ser Leu Trp Leu Arg Gly Leu Arg Met Cys Thr Pro Leu Gly Arg Glu  
 45 50 55

ggc gag gag tgc cac ccc ggc agc cac aag gtc ccc ttc ttc agg aaa 306  
 Gly Glu Glu Cys His Pro Gly Ser His Lys Val Pro Phe Phe Arg Lys  
 60 65 70

cgc aag cac cac acc tgt cct tgc ttg ccc aac ctg ctg tgc tcc agg 354

Arg	Lys	His	His	Thr	Cys	Pro	Cys	Leu	Pro	Asn	Leu	Leu	Cys	Ser	Arg		
		75					80					85					
ttc	ccg	gac	ggc	agg	tac	cgc	tgc	tcc	atg	gac	ttg	aag	aac	atc	aat		402
Phe	Pro	Asp	Gly	Arg	Tyr	Arg	Cys	Ser	Met	Asp	Leu	Lys	Asn	Ile	Asn		
	90					95					100						
ttt	taggcgcttg	cctgggtctca	ggataccac	catccttttc	ctgagcacag												455
Phe																	
105																	
cctggatttt	tatttctgcc	atgaaacca	gctcccatga	ctctcccagt	ccctacactg												515
actaccctga	tctctcttgt	ctagtacgca	catatgcaca	caggcagaca	tacctcccat												575
catgacatgg	tccccaggct	ggcctgagga	tgtcacagct	tgaggctgtg	gtgtgaaagg												635
tggccagcct	ggttctcttc	cctgctcagg	ctgccagaga	ggtggtaaat	ggcagaaagg												695
acattccccc	tccccctccc	aggtgacctg	ctctcttttc	tgggccctgc	ccctctcccc												755
acatgtatcc	ctcgggtctga	attagacatt	cctgggcaca	ggctcttggg	tgcaattgctc												815
agagtcccag	gtcctggcct	gacctcagg	cccttcacgt	gaggtctgtg	aggaccaatt												875
tgtgggtagt	tcattcttccc	tcgattgggt	aactccttag	tttcagacca	cagactcaag												935
attggctctt	cccagagggc	agcagacagt	caccccaagg	caggtgtagg	gagcccaggg												995
aggccaatca	gccccctgaa	gactctgggt	ccagtcagcc	tgtggcttgt	ggcctgtgac												1055
ctgtgacctt	ctgccagaat	tgatcatgct	ctgaggcccc	ctcttaccac	actttaccag												1115
ttaaccactg	aagcccccaa	ttcccacagc	ttttccatta	aaatgcaaat	ggtgggtggtt												1175
caatctaate	tgatattgac	atattagaag	gcaattaggg	tgtttcctta	aacaactcct												1235
ttccaaggat	cagccctgag	agcagggttg	tgactttgag	gagggcagtc	ctctgtccag												1295
attggggtgg	gagcaaggga	cagggagcag	ggcaggggct	gaaaggggca	ctgattcaga												1355
ccagggaggc	aactacacac	caacctgctg	gctttagaat	aaaagcacca	actg												1409

<210> 5  
 <211> 105  
 <212> PRT  
 <213> Homo sapiens

<400> 5																	
Met	Arg	Gly	Ala	Thr	Arg	Val	Ser	Ile	Met	Leu	Leu	Leu	Val	Thr	Val		
1				5					10					15			
Ser	Asp	Cys	Ala	Val	Ile	Thr	Gly	Ala	Cys	Glu	Arg	Asp	Val	Gln	Cys		
			20					25					30				
Gly	Ala	Gly	Thr	Cys	Cys	Ala	Ile	Ser	Leu	Trp	Leu	Arg	Gly	Leu	Arg		
			35				40						45				
Met	Cys	Thr	Pro	Leu	Gly	Arg	Glu	Gly	Glu	Glu	Cys	His	Pro	Gly	Ser		
			50			55					60						
His	Lys	Val	Pro	Phe	Phe	Arg	Lys	Arg	Lys	His	His	Thr	Cys	Pro	Cys		
65					70					75					80		
Leu	Pro	Asn	Leu	Leu	Cys	Ser	Arg	Phe	Pro	Asp	Gly	Arg	Tyr	Arg	Cys		
				85					90					95			
Ser	Met	Asp	Leu	Lys	Asn	Ile	Asn	Phe									
			100				105										

<210> 6  
 <211> 315  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> This degenerate sequence encodes the amino acid

sequence of SEQ ID NO:5.

<221> misc\_feature  
<222> (1)...(315)  
<223> n = A,T,C or G

<400> 6  
atgmngngng cnacnmngnt nwsnathatg ytnytnytng tnacngtnws ngaytgygcn 60  
gtnathacng gngcntgyga rmngaygtn cartgyggng cnggnacntg ytgygcnath 120  
wsnytntggy tnmngngnyt nmgnatgtgy acncnytnng gnmngngargg ngargartgy 180  
cayccnggnw sncayaargt nccnttytty mgnaarmgna arcaycayac ntgyccntgy 240  
ytnccnaayy tnytnntyws nmgnattyccn gayggngmgt aymngntyws natggayytn 300  
aaraayatha aytty 315

<210> 7  
<211> 16  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Peptide linker.

<400> 7  
Gly Gly Ser Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
1 5 10 15

<210> 8  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Motif.

<221> VARIANT  
<222> (8)...(8)  
<223> Xaa is Asp or Glu.

<221> VARIANT  
<222> (9)...(9)  
<223> Xaa is Lys or Arg.

<221> VARIANT  
<222> (1)...(10)  
<223> Xaa = Any Amino Acid

<221> VARIANT  
<222> (1)...(10)  
<223> Xaa = Any Amino Acid

<400> 8  
Ala Val Ile Thr Gly Ala Cys Xaa Xaa Asp  
1 5 10

<210> 9

<211> 23  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Motif.

<221> VARIANT  
 <222> (4)...(4)  
 <223> Xaa is Gly or Leu.

<221> VARIANT  
 <222> (5)...(5)  
 <223> Xaa is Ser or Thr.

<221> VARIANT  
 <222> (6)...(6)  
 <223> Xaa is His or Arg.

<221> VARIANT  
 <222> (12)...(12)  
 <223> Xaa is any amino acid.

<221> VARIANT  
 <222> (13)...(13)  
 <223> Xaa is Lys or Arg.

<221> VARIANT  
 <222> (15)...(15)  
 <223> Xaa is any amino acid.

<400> 9  
 Cys His Pro Xaa Xaa Xaa Lys Val Pro Phe Phe Xaa Xaa Arg Xaa His  
   1                  5                  10                  15  
 His Thr Cys Pro Cys Leu Pro  
                   20

<210> 10  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Glu-Glu tag

<400> 10  
 Glu Tyr Met Pro Met Glu  
   1                  5

<210> 11  
 <211> 249  
 <212> DNA  
 <213> Homo sapiens

<400> 11  
 atggccgtga tcaccggggc ttgtgacaag gactcccaat gtggtggagg catgtgctgt 60

```

gctgtcagta tctgggtcaa gagcataagg atttgcacac ctatgggcaa actgggagac 120
agctgccatc cactgactcg taaagttcca ttttttgggc ggaggatgca tcacacttgc 180
ccgtgtctgc caggcttggc ctgtttacgg acttcattta accgatttat ttgttttagcc 240
caaaagtaa 249

```

```

<210> 12
<211> 68
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> oligonucleotide primer ZC40821

```

```

<400> 12
ctagaaataa ttttgttttaa ctttaagaag gagatatata tatggccgtg atcaccgggg 60
cttgtgac 68

```

```

<210> 13
<211> 67
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> oligonucleotide primer ZC40813

```

```

<400> 13
tctgtatcag gctgaaaatc ttatctcatc cgccaaaaca ttacttttgg gctaaacaaa 60
taaatcg 67

```

```

<210> 14
<211> 249
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Codon optimized polynucleotide sequence for Zven1

```

```

<400> 14
atggctgtta ttaccgggtgc ttgcgacaaa gactctcagt gtggtggtgg tatgtgctgc 60
gctgtttcta tctgggttaa atctatccgt atctgcactc ctatgggtaa actgggtgac 120
tcttgccatc cgctgactcg taaagttccg ttcttcgggc gtcgtatgca tcacacctgt 180
ccgtgcctgc cgggtctggc ttgcctgcgt acctctttca accgtttcat ttgcctggct 240
cagaagtaa 249

```

```

<210> 15
<211> 79
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Oligonucleotide primer ZC45,048

```

```

<400> 15
agtcaatgga tgacaagaat caccacactt acccatagga gtacaaattc tgatagactt 60

```

aacccaaata gaaacagca

79

<210> 16  
 <211> 77  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide primer ZC45049

<400> 16  
 ttcttgatcat ccattgacta gaaagggtcc attctttggt agaaggatgc atcacacttg 60  
 tccatgtttg ccagggt 77

<210> 17  
 <211> 70  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide primer ZC45050

<400> 17  
 ttacttttga gccaaacaaa tgaatctggt gaaagaagtt ctcaaacaag ccaaactgg 60  
 caaacatgga 70

<210> 18  
 <211> 68  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide primer ZC45051

<400> 18  
 attactgggtg cttgtgataa ggattctcaa tgtgggtgggtg gtatgtgttg tgctgtttct 60  
 atttgggt 68

<210> 19  
 <211> 65  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide primer ZC45052

<400> 19  
 ttatcacaag caccagtaat aacagcagca tcaccggctc ttggagtcaa caacaatggt 60  
 ggcaa 65

<210> 20  
 <211> 59  
 <212> DNA



<213> Artificial Sequence

<220>

<223> Oligonucleotide primer ZC45053

<400> 20

atgagatctt tgtgttgtgc tccattgttg ttgttgttgt tgttgccacc attgttgtt 59

<210> 21

<211> 1182

<212> DNA

<213> Homo sapiens

<400> 21

atggagacca	ccatgggggtt	catggatgac	aatgccacca	acacttccac	cagcttcctt	60
tctgtgctca	accctcatgg	agcccatgcc	acttccttcc	cattcaactt	cagctacagc	120
gactatgata	tgccttttga	tgaagatgag	gatgtgacca	attccaggac	gttcttttgc	180
gccaagattg	tcattgggat	ggccctgggtg	ggcatcatgc	tgggtctgcgg	cattggaaac	240
ttcatcttta	tcgctgccct	ggtccgctac	aagaaactgc	gcaacctcac	caacctgctc	300
atcgccaacc	tggccatctc	tgacttcctg	gtggccattg	tctgctgccc	ctttgagatg	360
gactactatg	tgggtgcgcca	gctctcctgg	gagcacggcc	acgtcctgtg	cacctctgtc	420
aactacctgc	gcactgtctc	tctctatgtc	tccaccaatg	ccctgctggc	catcgccatt	480
gacaggtatc	tggctattgt	ccatccgctg	agaccacgga	tgaagtgcc	aacagccact	540
ggcctgattg	ccttgggtgtg	gacggtgtcc	atcctgatcg	ccatcccttc	cgcctacttc	600
accaccgaga	cggtcctcgt	cattgtcaag	agccaggaaa	agatcttctg	cggccagatc	660
tggcctgttg	accagcagct	ctactacaag	tcctacttcc	tctttatctt	tggcatagaa	720
ttcgtggggc	ccgtgggtcac	catgaccctg	tgctatgcc	ggatctcccg	ggagctctgg	780
ttcaaggcgg	tccttggtatt	ccagacagag	cagatccgca	agaggctgcg	ctgccgcagg	840
aagacgggtc	tgggtgctcat	gtgcatcctc	accgcctacg	tgctatgctg	ggcgcccttc	900
tacggcttca	ccatcggtgcg	cgacttcttc	cccaccgtgt	ttgtgaagga	gaagcactac	960
ctcactgcct	tctacatcgt	cgagtgcac	gccatgagca	acagcatgat	caacactctg	1020
tgcttcgtga	ccgtcaagaa	cgacaccgtc	aagtacttca	aaaagatcat	gttgctccac	1080
tgggaaggctt	cttacaatgg	cggtaagtcc	agtgcagacc	tggacctcaa	gacaattggg	1140
atgcctgcca	ccgaagaggt	ggactgcac	agactaaaa	aa		1182

<210> 22

<211> 1155

<212> DNA

<213> Homo sapiens

<400> 22

atggcagccc	agaatggaaa	caccagtttc	acacccaact	ttaatccacc	ccaagaccat	60
gcctcctccc	tctcctttta	cttcagttat	ggtgattatg	acctccctat	ggatgaggat	120
gaggacatga	ccaagaccgc	gaccttcttc	gcagccaaga	tcgtcattgg	cattgcactg	180
gcaggcatca	tgctgggtctg	cggcatcggg	aactttgtct	ttatcgctgc	cctcaccgcg	240
tataagaagt	tgcgcaacct	caccaatctg	ctcattgcc	acctggccat	ctccgacttc	300
ctggtggcca	tcattctgctg	ccccttcgag	atggactact	acgtgggtacg	gcagctctcc	360
tgggagcatg	gccacgtgct	ctgtgcctcc	gtcaactacc	tgcgcaccgt	ctccctctac	420
gtctccacca	atgccttgct	ggcattggc	attgacagat	atctcgccat	cgttcacccc	480
ttgaaccac	ggatgaatta	tcaaacggcc	tccttcttga	tcgccttggg	ctggatgggtg	540
tccattctca	ttgccatccc	atcggcttac	tttgcaacag	aaacggtcct	ctttattgtc	600
aagagccagg	agaagatctt	ctgtggccag	atctggcctg	tggatcagca	gctctactac	660
aagtcctact	tcctcttcat	ctttgggtgtc	gagttcgtgg	gccctgtggg	caccatgacc	720
ctgtgctatg	ccaggatctc	ccgggagctc	tggttcaagg	cagtccttgg	gttccagacg	780
gagcagattc	gcaagcgggt	gcgctgccc	aggaagacgg	tcctgggtgct	catgtgcatt	840
ctcacggcct	atgtgctgtg	ctgggcaccc	ttctacgggt	tcaccatcgt	tcgtgacttc	900

```

ttccccactg tgttcgtgaa ggaaaagcac tacctcactg ccttctacgt ggtcgagtgc 960
atcgccatga gcaacagcat gatcaacacc gtgtgcttcg tgacgggtcaa gaacaacacc 1020
atgaagtact tcaagaagat gatgctgctg cactggcgtc cctcccagcg ggggagcaag 1080
tccagtgtg accttgacct cagaaccaac ggggtgccca ccacagaaga ggtggactgt 1140
atcaggctga agtga                                     1155

```

<210> 23  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide primer ZC29463

<400> 23  
 ggaattcatg aggagcctgt gctgcgcc 28

<210> 24  
 <211> 31  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Oligonucleotide primer ZC29462

<400> 24  
 gctctagacc cttttgggct aaacaaataa a 31

<210> 25  
 <211> 348  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Expression sequence

<400> 25  
 atgaggagcc tgtgctgcgc cccactcctg ctctctttgc tgctgccgcc gctgctgctc 60  
 acgccccgcg ctgggggacgc cgccgtgatc accgggggctt gtgacaagga ctcccaatgt 120  
 ggtggaggca tgtgctgtgc tgtcagtatc tgggtcaaga gcataaggat ttgcacacct 180  
 atgggcaaac tgggagacag ctgccatcca ctgactcgta aagttccatt ttttgggcgg 240  
 aggatgcata acacttgccc gtgtctgcca ggcttggcct gtttacggac ttcatttaac 300  
 cgatttatat gtttagccca aaagggtcta gaatacatgc cgatggac 348

<210> 26  
 <211> 116  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Expression sequence with Gly linker and  
 Glu-Glu-tag

&lt;400&gt; 26

```

Met Arg Ser Leu Cys Cys Ala Pro Leu Leu Leu Leu Leu Leu Leu Pro
1      5      10      15
Pro Leu Leu Leu Thr Pro Arg Ala Gly Asp Ala Ala Val Ile Thr Gly
20      25      30
Ala Cys Asp Lys Asp Ser Gln Cys Gly Gly Gly Met Cys Cys Ala Val
35      40      45
Ser Ile Trp Val Lys Ser Ile Arg Ile Cys Thr Pro Met Gly Lys Leu
50      55      60
Gly Asp Ser Cys His Pro Leu Thr Arg Lys Val Pro Phe Phe Gly Arg
65      70      75      80
Arg Met His His Thr Cys Pro Cys Leu Pro Gly Leu Ala Cys Leu Arg
85      90      95
Thr Ser Phe Asn Arg Phe Ile Cys Leu Ala Gln Lys Gly Leu Glu Tyr
100     105     110
Met Pro Met Asp
115

```

&lt;210&gt; 27

&lt;211&gt; 393

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 27

```

Met Glu Thr Thr Met Gly Phe Met Asp Asp Asn Ala Thr Asn Thr Ser
1      5      10      15
Thr Ser Phe Leu Ser Val Leu Asn Pro His Gly Ala His Ala Thr Ser
20      25      30
Phe Pro Phe Asn Phe Ser Tyr Ser Asp Tyr Asp Met Pro Leu Asp Glu
35      40      45
Asp Glu Asp Val Thr Asn Ser Arg Thr Phe Phe Ala Ala Lys Ile Val
50      55      60
Ile Gly Met Ala Leu Val Gly Ile Met Leu Val Cys Gly Ile Gly Asn
65      70      75      80
Phe Ile Phe Ile Ala Ala Leu Val Arg Tyr Lys Lys Leu Arg Asn Leu
85      90      95
Thr Asn Leu Leu Ile Ala Asn Leu Ala Ile Ser Asp Phe Leu Val Ala
100     105     110
Ile Val Cys Cys Pro Phe Glu Met Asp Tyr Tyr Val Val Arg Gln Leu
115     120     125
Ser Trp Glu His Gly His Val Leu Cys Thr Ser Val Asn Tyr Leu Arg
130     135     140
Thr Val Ser Leu Tyr Val Ser Thr Asn Ala Leu Leu Ala Ile Ala Ile
145     150     155     160
Asp Arg Tyr Leu Ala Ile Val His Pro Leu Arg Pro Arg Met Lys Cys
165     170     175
Gln Thr Ala Thr Gly Leu Ile Ala Leu Val Trp Thr Val Ser Ile Leu
180     185     190
Ile Ala Ile Pro Ser Ala Tyr Phe Thr Thr Glu Thr Val Leu Val Ile
195     200     205
Val Lys Ser Gln Glu Lys Ile Phe Cys Gly Gln Ile Trp Pro Val Asp
210     215     220
Gln Gln Leu Tyr Tyr Lys Ser Tyr Phe Leu Phe Ile Phe Gly Ile Glu
225     230     235     240
Phe Val Gly Pro Val Val Thr Met Thr Leu Cys Tyr Ala Arg Ile Ser
245     250     255

```

Arg Glu Leu Trp Phe Lys Ala Val Pro Gly Phe Gln Thr Glu Gln Ile  
 260 265 270  
 Arg Lys Arg Leu Arg Cys Arg Arg Lys Thr Val Leu Val Leu Met Cys  
 275 280 285  
 Ile Leu Thr Ala Tyr Val Leu Cys Trp Ala Pro Phe Tyr Gly Phe Thr  
 290 295 300  
 Ile Val Arg Asp Phe Phe Pro Thr Val Phe Val Lys Glu Lys His Tyr  
 305 310 315 320  
 Leu Thr Ala Phe Tyr Ile Val Glu Cys Ile Ala Met Ser Asn Ser Met  
 325 330 335  
 Ile Asn Thr Leu Cys Phe Val Thr Val Lys Asn Asp Thr Val Lys Tyr  
 340 345 350  
 Phe Lys Lys Ile Met Leu Leu His Trp Lys Ala Ser Tyr Asn Gly Gly  
 355 360 365  
 Lys Ser Ser Ala Asp Leu Asp Leu Lys Thr Ile Gly Met Pro Ala Thr  
 370 375 380  
 Glu Glu Val Asp Cys Ile Arg Leu Lys  
 385 390

<210> 28  
 <211> 384  
 <212> PRT  
 <213> Homo sapiens

<400> 28  
 Met Ala Ala Gln Asn Gly Asn Thr Ser Phe Thr Pro Asn Phe Asn Pro  
 1 5 10 15  
 Pro Gln Asp His Ala Ser Ser Leu Ser Phe Asn Phe Ser Tyr Gly Asp  
 20 25 30  
 Tyr Asp Leu Pro Met Asp Glu Asp Glu Asp Met Thr Lys Thr Arg Thr  
 35 40 45  
 Phe Phe Ala Ala Lys Ile Val Ile Gly Ile Ala Leu Ala Gly Ile Met  
 50 55 60  
 Leu Val Cys Gly Ile Gly Asn Phe Val Phe Ile Ala Ala Leu Thr Arg  
 65 70 75 80  
 Tyr Lys Lys Leu Arg Asn Leu Thr Asn Leu Leu Ile Ala Asn Leu Ala  
 85 90 95  
 Ile Ser Asp Phe Leu Val Ala Ile Ile Cys Cys Pro Phe Glu Met Asp  
 100 105 110  
 Tyr Tyr Val Val Arg Gln Leu Ser Trp Glu His Gly His Val Leu Cys  
 115 120 125  
 Ala Ser Val Asn Tyr Leu Arg Thr Val Ser Leu Tyr Val Ser Thr Asn  
 130 135 140  
 Ala Leu Leu Ala Ile Ala Ile Asp Arg Tyr Leu Ala Ile Val His Pro  
 145 150 155 160  
 Leu Lys Pro Arg Met Asn Tyr Gln Thr Ala Ser Phe Leu Ile Ala Leu  
 165 170 175  
 Val Trp Met Val Ser Ile Leu Ile Ala Ile Pro Ser Ala Tyr Phe Ala  
 180 185 190  
 Thr Glu Thr Val Leu Phe Ile Val Lys Ser Gln Glu Lys Ile Phe Cys  
 195 200 205  
 Gly Gln Ile Trp Pro Val Asp Gln Gln Leu Tyr Tyr Lys Ser Tyr Phe  
 210 215 220  
 Leu Phe Ile Phe Gly Val Glu Phe Val Gly Pro Val Val Thr Met Thr  
 225 230 235 240  
 Leu Cys Tyr Ala Arg Ile Ser Arg Glu Leu Trp Phe Lys Ala Val Pro  
 245 250 255

Gly	Phe	Gln	Thr	Glu	Gln	Ile	Arg	Lys	Arg	Leu	Arg	Cys	Arg	Arg	Lys
			260					265					270		
Thr	Val	Leu	Val	Leu	Met	Cys	Ile	Leu	Thr	Ala	Tyr	Val	Leu	Cys	Trp
		275					280					285			
Ala	Pro	Phe	Tyr	Gly	Phe	Thr	Ile	Val	Arg	Asp	Phe	Phe	Pro	Thr	Val
	290					295					300				
Phe	Val	Lys	Glu	Lys	His	Tyr	Leu	Thr	Ala	Phe	Tyr	Val	Val	Glu	Cys
305					310					315					320
Ile	Ala	Met	Ser	Asn	Ser	Met	Ile	Asn	Thr	Val	Cys	Phe	Val	Thr	Val
				325					330					335	
Lys	Asn	Asn	Thr	Met	Lys	Tyr	Phe	Lys	Lys	Met	Met	Leu	Leu	His	Trp
			340					345					350		
Arg	Pro	Ser	Gln	Arg	Gly	Ser	Lys	Ser	Ser	Ala	Asp	Leu	Asp	Leu	Arg
		355					360					365			
Thr	Asn	Gly	Val	Pro	Thr	Thr	Glu	Glu	Val	Asp	Cys	Ile	Arg	Leu	Lys
	370					375					380				

&lt;210&gt; 29

&lt;211&gt; 129

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 29

Met	Arg	Ser	Leu	Cys	Cys	Ala	Pro	Leu	Leu	Leu	Leu	Leu	Leu	Leu	Pro
1				5				10					15		
Pro	Leu	Leu	Leu	Thr	Pro	Arg	Ala	Gly	Asp	Ala	Ala	Val	Ile	Thr	Gly
			20					25					30		
Ala	Cys	Asp	Lys	Asp	Ser	Gln	Cys	Gly	Gly	Gly	Met	Cys	Cys	Ala	Val
		35				40						45			
Ser	Ile	Trp	Val	Lys	Ser	Ile	Arg	Ile	Cys	Thr	Pro	Met	Gly	Lys	Leu
	50					55					60				
Gly	Asp	Ser	Cys	His	Pro	Leu	Thr	Arg	Lys	Asn	Asn	Phe	Gly	Asn	Gly
65					70					75					80
Arg	Gln	Glu	Arg	Arg	Lys	Arg	Lys	Arg	Ser	Lys	Arg	Lys	Lys	Glu	Val
				85					90					95	
Pro	Phe	Phe	Gly	Arg	Arg	Met	His	His	Thr	Cys	Pro	Cys	Leu	Pro	Gly
			100					105					110		
Leu	Ala	Cys	Leu	Arg	Thr	Ser	Phe	Asn	Arg	Phe	Ile	Cys	Leu	Ala	Gln
		115					120					125			

Lys